

Title (en)

PROTON EXCHANGE MEMBRANE WATER ELECTROLYZER MEMBRANE ELECTRODE ASSEMBLY

Title (de)

MEMBRANELEKTRODENANORDNUNG FÜR EINEN WASSERELEKTROLYSEUR MIT PROTONENAUSTAUSCHMEMBRAN

Title (fr)

ENSEMBLE MEMBRANE-ÉLECTRODE D'ÉLECTROLYSEUR D'EAU À MEMBRANE ÉCHANGEUSE DE PROTONS

Publication

EP 4288590 A1 20231213 (EN)

Application

EP 22750305 A 20220202

Priority

- US 202163144539 P 20210202
- US 2022014905 W 20220202

Abstract (en)

[origin: US202243339A1] Method for forming a membrane electrode assembly, include for example, providing a first layer membrane, a second layer membrane, an anode electrode, and a cathode electrode. The first layer membrane has a first thickness, the second layer membrane has a thickness less than the first thickness, and the second layer membrane contains a catalyst content that is greater than a catalyst content in the first layer membrane. The first layer membrane, the second layer membrane, the anode electrode, and the cathode electrode are formed into a membrane electrode assembly (MEA) comprising an exchange membrane having an interface between the first layer membrane and the second layer membrane. In some embodiments, may include a first and second lamination process, a single laminating process, a roll-to-roll process, and/or a casting process.

IPC 8 full level

C25B 1/04 (2021.01); **B01D 61/44** (2006.01); **C25B 9/23** (2021.01); **C25B 9/40** (2021.01); **H01M 4/08** (2006.01); **H01M 4/90** (2006.01); **H01M 4/92** (2006.01)

CPC (source: EP KR US)

C08J 5/22 (2013.01 - KR); **C25B 1/04** (2013.01 - EP KR US); **C25B 9/19** (2021.01 - US); **C25B 9/21** (2021.01 - KR); **C25B 9/23** (2021.01 - EP KR); **C25B 11/053** (2021.01 - EP KR US); **C25B 11/081** (2021.01 - EP KR US); **C25B 13/02** (2013.01 - EP KR US); **C25B 13/08** (2013.01 - EP KR US); **Y02E 60/36** (2013.01 - EP KR); **Y02E 60/50** (2013.01 - EP KR)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

US 2022243339 A1 20220804; AU 2022215554 A1 20230831; AU 2022216247 A1 20230831; CA 3210507 A1 20220811; CA 3210508 A1 20220811; CN 116917547 A 20231020; CN 116963824 A 20231027; EP 4288191 A1 20231213; EP 4288590 A1 20231213; JP 2024505118 A 20240202; JP 2024506756 A 20240214; KR 20230137983 A 20231005; KR 20230142761 A 20231011; US 2022243344 A1 20220804; WO 2022169844 A1 20220811; WO 2022169851 A1 20220811

DOCDB simple family (application)

US 202217590969 A 20220202; AU 2022215554 A 20220202; AU 2022216247 A 20220202; CA 3210507 A 20220202; CA 3210508 A 20220202; CN 202280018866 A 20220202; CN 202280018891 A 20220202; EP 22750305 A 20220202; EP 22750311 A 20220202; JP 2023571246 A 20220202; JP 2023571248 A 20220202; KR 20237029440 A 20220202; KR 20237029796 A 20220202; US 2022014905 W 20220202; US 2022014914 W 20220202; US 202217590971 A 20220202